Amendments to the Claims:

Please amend the claims as set forth below.

1. (Previously Presented) A composite of a vulcanizable composition selected from a group consisting of natural rubbers, synthetic rubbers and thermoplastic elastomers and having at least one metal reinforcement element embedded therein, wherein the metal reinforcement element has a coating of a polymer deposited from a solution and compatible with and co-polymerizable with said vulcanizable composition, and bearing functional groups covalently bonding to the metal surface of said reinforcement element, wherein the functional groups are:

organometallic groups of the formula $-M(Cl')_n$, wherein M is a metal selected from the group consisting of Al, Sn, B, Ti and V; and n is the number of ligands corresponding to the metal M.

2. (Original) A composite according to claim 1, wherein said solution is an aqueous solution.

3. (Original) A composite according to claim 1, wherein said solution is an alcoholic solution.

4. (Original) A composite according to claim 1, wherein said solution is an organic solution.

5. (Original) A composite according to claim 1, wherein said at least one metal reinforcement element has a coating of a non-cured rubber composition.

6. (Canceled)

7. (Canceled)

8. (Canceled)

9. (Previously Presented) A composite according to claim 1, wherein said at least one metal reinforcement element comprises on top of said coating, a layer of a skim composition for the vulcanizable composition.

10. (Previously Presented) A composite according to claim 1 wherein the vulcanizable composition to be reinforced is a composition selected from the group consisting of a synthetic poly(isoprene), a natural poly(isoprene), a synthetic poly(butadiene), natural poly(butadiene), a styrene-butadiene-rubber (SBR), a halobutylrubber, and an ethylene-propylene-diene-rubber (EPDM).

11. (Original) A composite according to claim 1, wherein said metal reinforcement element is an elongated steel element.

12. (Original) A composite according to claim 11, wherein said elongated steel element is coated with at least one metallic layer.

13. (Original) A composite according to claim 12, wherein said metallic layer is comprised of a metal selected from the group consisting of brass, bronze, zinc, zinc alloy, tin and tin alloy.

14. (Currently Amended) A composite according to claim 13, wherein said zinc alloy is an alloy selected from the group consisting of a zinc-aluminium alloy, a zinc-aluminium-mischmetal alloy, a zinc-manganese alloy, a zinc-cobalt alloy, a zinc-nickel alloy, a zinc-iron alloy and a zinc-tin alloy.

15. (Canceled)

16. (Canceled)

17. (Canceled)

18. (Original) A composite according to claim 1, wherein said functional groups are carried along a polymer backbone.

19. (Original) A composite according to claim 1, wherein said functional groups are part of side chains of the polymer.

20. (Original) A composite according to claim 18, wherein said functional groups are epoxy groups carried along the polymer backbone.

21. (Original) A composite according to claim 18, wherein said functional groups are epoxy groups which are part of side chains attached to the polymer backbone.

22. (Canceled)

23. (Canceled)

24. (Currently Amended) A composite of a vulcanizable composition selected from a group consisting of natural rubbers, synthetic rubbers and thermoplastic elastomers and having a least one metal reinforcement element embedded therein, wherein the metal reinforcement element has a coating of a polymer deposited from a solution and compatible with and co-polymerizable with said vulcanizable composition, and bearing functional groups covalently bonding to the metal surface of said at least one reinforcement element, wherein the functional groups are selected from the group consisting of:

thiol groups;

silanes, $SiHCl_2$, $-SiH_2Cl$, , $-Si(Cl)_3$, $-SiHBr_2$, $-SiH_2Br$, $-SiBr_3$, $-Si(R'(Cl)_2)$, $-Si(OR')_3$, $-Si(R'(OR')_2)$, wherein R' is an alkyl selected from the groups consisting of methyl, ethyl, and propyl;

amines;

$-PO_3H_2$, $-SO_2H$;

the acid anhydride group of $-PO_3H_2$, and $-SO_2H$; the acid chloride group of $-PO_3H_2$ and $-SO_2H$; organometallic groups of the formula $-M(OR')_n$ and $-M(Cl')_n$, wherein M is a metal selected from the group consisting of Al, Sn, B, Ti, and V; and n is the number of ligands corresponding to the metal M;

phthalocyanin groups; and;

phthalonitril groups;

wherein the functional groups are carried as terminal groups, carried along the polymer backbone, or carried as part of side chains, and wherein said polymer is bound to said metal surface by an adhesion promotor that is a bifunctional compound of the general formula (I)

$$X\text{-}(R)_n\text{-}(AR)_l\text{-}(R)_m\text{-}Y \quad (I)$$

with X representing a group capable of reacting covalently at the metal surface,

R representing an organic spacer chain;

Ar representing an aromatic system,

Y representing a group capable of forming covalent bonds to the functional groups of said coating, and $0 \leq n, m \leq 16$, $0 \leq 1 \leq 6$, and $n + m + 1 \neq 0$

25. (Currently Amended) A composite according to claim 24, wherein Ar represents a heteroaromatic system.

26. (Previously Presented) A composite according to claim 24 wherein

X is a functional group selected from the group consisting of-SH; -$SiHCl_2$; -SiH_2Cl; -$Si(Cl)_3$; -$SiHBr_2$; -SiH_2Br; -$SiBr_3$; -$Si(R'(Cl)_2)$; -$Si(OR')_3$; -$Si(R'(OR')_2)$; -COOH; -COCl; -PO_3H_2, -SO_2H; an organometallic group of the formula -$M(OR')_n$, whereby M is a metal selected from the group consisting of Al, Sn, B, Ti and V and n is the number of ligands corresponding to the metal M; a phthalocyanin; a phthalonitril group; a monothiol; and a monothiolate group; R' being an alkyl;

Y is a functional group selected from the group consisting of NH_2; NHR'; NR'_2; an unsaturated residue; an acrylic acid group; a methacrylic acid group; methyl esters or ethyl esters; and

R represents -CH_2-.

27. (Cancelled)

28. (Original) A composite according to claim 26, wherein R represents a -(CH_2)- chain; $2 \leq n \leq 20$; and said chain is unhalogenated, aromatic units, and includes constituents selected from the group consisting of: -$(CH_2)_iCH_3$ where $0 \leq i \leq 5$, -$O(CH_2)_jCH_3$, or -$O(CF_2)_iCH_3$ where $0 \leq j \leq 4$, -CN and -NH_2; -CF_2-; -CH_2-CO-NH-CH_2-; -CF_2-CO-NH-CF_2-; -CH_2-CO-NH-CF_2-; and CF_2-CO-NH-CH_2-; and where

-CN is a functional group selected from the group consisting of an activated carboxylic ester; an aldehyde group; an epoxide group;-SH; -$SiHCl_2$; -SiH_2Cl; -$Si(Cl)_3$; -$SiHBr_2$; -SiH_2Br; -$SiBr_3$; -$Si(R'(Cl)_2)$; -$Si(OR')_3$; -$Si(R'(OR')_2)$; -COOH; -COCl; or a functional group capable of forming a complex with at least one ingredient of a non-metallic medium.

29. (Original) A composite according to claim 28, wherein said chain may be partially halogenated.

30. (Original) A composite according to claim 28, wherein said chain may be perhalogenated.

31. (Original) A composite according to claim 28, wherein said chain may contain thiophen units.

32. (Original) A composite according to claim 28, wherein said aromatic units may comprise constituents selected from the group consisting of: $-(CH_2)_iCH_3$ where $0 \leq i \leq 5$, $-O(CH_2)_jCH_3$, or $-O(CF_2)_iCH_3$ where $0 \leq j \leq 4$, -CN and $-NH_2$; $-CF_2-$; $-CH_2-CO-NH-CH_2-$; $-CF_2-CO-NH-CF_2-$; $-CH_2-CO-NH-CF_2-$; and $CF_2-CO-NH-CH_2-$.

33. (Original) A composite according to claim 31, wherein said thiophen units ~~may~~ comprise constituents selected from the group consisting of: $-(CH_2)_iCH_3$ where $0 \leq i \leq 5$, $-O(CH_2)_jCH_3$, $-O(CF_2)_iCH_3$ where $0 \leq j \leq 4$, $-CN_1$ $-NH_2$; $-CF_2-$; $-CH_2-CO-NH-CH_2-$; $-CF_2-CO-NH-CF_2-$; $-CH_2-CO-NH-CF_2-$; and $CF_2-CO-NH-CH_2-$.

34. (Previously Presented) A composite according to claim 26, wherein X is a functional group selected from the group consisting of the acid anhydride group of -COOH; $-PO_3H_2$, and $-SO_2H$.

35. (Previously Presented) A composite according to claim 26, wherein X is a functional group selected from the group consisting of the acid chloride group of -COOH; $-PO_3H_2$, and $-SO_2H$.

36. (Original) A composite according to claim 26, wherein R' is an alkyl selected from the group consisting of methyl, ethyl and propyl.

37. (Canceled)

38. (Previously Presented) A cured composition obtained by vulcanization of a composite according to claim 1.

39. (Original) A composition according to claim 38, wherein said composition is a pneumatic tire.

40. (Original) A composition according to claim 38, wherein said composition is a hose.

41. (Original) A composition according to claim 38, wherein said composition is a conveyor belt.

42. (Original) A composition according to claim 38, wherein said composition is a pulley belt.

43 (New) A cured composition obtained by vulcanization of a composite according to claim 24.

44. (New) A composition according to claim 43, wherein said composition is a pneumatic tire.

45. (New) A composition according to claim 43, wherein said composition is a hose.

46. (New) A composition according to claim 43, wherein said composition is a conveyor belt.

47. (New) A composition according to claim 43, wherein said composition is a pulley belt.

Conclusion

It is submitted that the application is now in condition for allowance and an early notice of allowability is solicited.

Respectfully submitted,

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